

## WEST Search History

DATE: Friday, August 05, 2005

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		<i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI; PLUR=YES; OP=ADJ</i>	
<input type="checkbox"/>	L3	amylase with bacillus with (ksm-k38 or bp-6946 or k38amy)	5

END OF SEARCH HISTORY

## Hit List

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**Search Results - Record(s) 1 through 5 of 5 returned.**☐ 1. Document ID: US 20040265959 A1**Using default format because multiple data bases are involved.**

L3: Entry 1 of 5

File: PGPB

Dec 30, 2004

PGPUB-DOCUMENT-NUMBER: 20040265959

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040265959 A1

TITLE: Highly productive alpha-amylases

PUBLICATION-DATE: December 30, 2004

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Araki, Hiroyuki	Tochigi		JP	
Endo, Keiji	Tochigi		JP	
Hagihara, Hiroshi	Tochigi		JP	
Igarashi, Kazuaki	Tochigi		JP	
Hayashi, Yasuhiro	Tochigi		JP	
Ozaki, Katsuya	Tochigi		JP	

US-CL-CURRENT: [435/69.1](#); [435/204](#), [435/252.3](#), [435/320.1](#), [510/320](#), [536/23.2](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWMC	Draw De
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☐ 2. Document ID: US 20040091994 A1

L3: Entry 2 of 5

File: PGPB

May 13, 2004

PGPUB-DOCUMENT-NUMBER: 20040091994

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040091994 A1

TITLE: Alpha-amylase variant with altered properties

PUBLICATION-DATE: May 13, 2004

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Andersen, Carsten	Vaerlose		DK	

US-CL-CURRENT: [435/202](#); [435/252.3](#), [435/320.1](#), [435/69.1](#), [510/220](#), [510/320](#), [536/23.2](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 3. Document ID: US 20020123124 A1

L3: Entry 3 of 5

File: PGPB

Sep 5, 2002

PGPUB-DOCUMENT-NUMBER: 20020123124

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020123124 A1

TITLE: Highly productive alpha-amylases

PUBLICATION-DATE: September 5, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Araki, Hiroyuki	Haga-gun		JP	
Endo, Keiji	Haga-gun		JP	
Hagihara, Hiroshi	Haga-gun		JP	
Igarashi, Kazuaki	Haga-gun		JP	
Hayashi, Yasuhiro	Haga-gun		JP	
Ozaki, Katsuya	Haga-gun		JP	

US-CL-CURRENT: [435/202](#); [435/320.1](#), [435/325](#), [435/69.1](#), [536/23.2](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 4. Document ID: US 6743616 B2

L3: Entry 4 of 5

File: USPT

Jun 1, 2004

US-PAT-NO: 6743616

DOCUMENT-IDENTIFIER: US 6743616 B2

**\*\* See image for Certificate of Correction \*\***

TITLE: Highly productive alpha-amylases

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
------	-------	----------	-------	--------	----------------	------	-----------	-----------	-------------	--------	------	--------

☐ 5. Document ID: US 20040091994 A1, WO 200231124 A2, AU 200210380 A, EP 1326965 A2

L3: Entry 5 of 5

File: DWPI

May 13, 2004

DERWENT-ACC-NO: 2002-463264

DERWENT-WEEK: 200432

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TITLE: KSM-K36 or KSM-K38 variant from Bacillus for cleaning dishes, textile desizing, starch liquefaction and ethanol production has alpha-amylase activity

Full	Title	Citation	Front	Review	Classification	Date	Reference	Search	Claims	KMCD	Draw De
------	-------	----------	-------	--------	----------------	------	-----------	--------	--------	------	---------

[Clear](#)[Generate Collection](#)[Print](#)[Fwd Refs](#)[Bkwd Refs](#)[Generate OACS](#)

Terms	Documents
amylase with bacillus with (ksm-k38 or bp-6946 or k38amy)	5

**Display Format:**[Change Format](#)[Previous Page](#)[Next Page](#)[Go to Doc#](#)

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NEWS	10	MAR 22	PATDPASPC - New patent database available
NEWS	11	MAR 22	REGISTRY/ZREGISTRY enhanced with experimental property tags
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NEWS	15	APR 25	Patent searching, including current-awareness alerts (SDIs), based on application date in CA/CAPLUS and USPATFULL/USPAT2 may be affected by a change in filing date for U.S. applications.
NEWS	16	APR 28	Improved searching of U.S. Patent Classifications for U.S. patent records in CA/CAPLUS
NEWS	17	MAY 23	GBFULL enhanced with patent drawing images
NEWS	18	MAY 23	REGISTRY has been enhanced with source information from CHEMCATS
NEWS	19	JUN 06	The Analysis Edition of STN Express with Discover! (Version 8.0 for Windows) now available
NEWS	20	JUN 13	RUSSIAPAT: New full-text patent database on STN
NEWS	21	JUN 13	FRFULL enhanced with patent drawing images
NEWS	22	JUN 27	MARPAT displays enhanced with expanded G-group definitions and text labels
NEWS	23	JUL 01	MEDICONF removed from STN
NEWS	24	JUL 07	STN Patent Forums to be held in July 2005
NEWS	25	JUL 13	SCISEARCH reloaded
NEWS	26	JUL 20	Powerful new interactive analysis and visualization software, STN AnaVist, now available
NEWS EXPRESS		JUNE 13	CURRENT WINDOWS VERSION IS V8.0, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 13 JUNE 2005
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FILE 'WPIDS' ENTERED AT 18:06:59 ON 05 AUG 2005

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=> s amylase (5a) bacillus (5a) (ksm-k38 or bp-6946 or k38amy)

3 FILES SEARCHED...

L1 26 AMYLASE (5A) BACILLUS (5A) (KSM-K38 OR BP-6946 OR K38AMY)

=> dup rem l1

PROCESSING COMPLETED FOR L1

L2 10 DUP REM L1 (16 DUPLICATES REMOVED)

=> d 1-10

L2 ANSWER 1 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:207942 HCAPLUS

DN 142:331573

TI An oxidation stable and chelator-resistant, calcium-free .alpha.-  
\*\*\*amylase\*\*\* from the alkaliphilic \*\*\*Bacillus\*\*\* isolate  
\*\*\*KSM\*\*\* - \*\*\*K38\*\*\*

AU Hagiwara, Hiroshi

CS Biol. Sci. Lab., Kao Corp., Tochigi, 321-3497, Japan

SO Journal of Applied Glycoscience (2005), 52(1), 51-58

CODEN: JAGLFX; ISSN: 1344-7882

PB Japanese Society of Applied Glycoscience

DT Journal; General Review

LA Japanese

L2 ANSWER 2 OF 10 MEDLINE on STN

DUPLICATE 1

AN 2003316377 MEDLINE

DN PubMed ID: 12719434  
 TI Crystal structure of calcium-free alpha- \*\*\*amylase\*\*\* from  
 \*\*\*Bacillus\*\*\* sp. strain \*\*\*KSM\*\*\* - \*\*\*K38\*\*\* (AmyK38) and its  
 sodium ion binding sites.  
 AU Nonaka Tsuyoshi; Fujihashi Masahiro; Kita Akiko; Hagihara Hiroshi; Ozaki  
 Katsuya; Ito Susumu; Miki Kunio  
 CS Department of Chemistry, Graduate School of Science, Kyoto University,  
 Sakyo-ku, Japan.  
 SO Journal of biological chemistry, (2003 Jul 4) 278 (27) 24818-24.  
 Electronic Publication: 2003-04-28.  
 Journal code: 2985121R. ISSN: 0021-9258.  
 CY United States  
 DT Journal; Article; (JOURNAL ARTICLE)  
 LA English  
 FS Priority Journals  
 OS PDB-1UD2; PDB-1UD3; PDB-1UD4; PDB-1UD5; PDB-1UD6; PDB-1UD8  
 EM 200308  
 ED Entered STN: 20030709  
 Last Updated on STN: 20030819  
 Entered Medline: 20030818

L2 ANSWER 3 OF 10 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN  
 DUPLICATE 2  
 AN 2002-16321 BIOTECHDS  
 TI KSM-K36 or KSM-K38 variant from Bacillus for cleaning dishes, textile  
 desizing, starch liquefaction and ethanol production has alpha-amylase  
 activity;  
 plasmid-mediated recombinant mutant enzyme gene transfer and  
 expression in Bacillus sp.  
 AU ANDERSEN C  
 PA NOVOZYMES AS  
 PI WO 2002031124 18 Apr 2002  
 AI WO 2000-DK668 13 Oct 2000  
 PRAI US 2001-326752 3 Oct 2001  
 DT Patent  
 LA English  
 OS WPI: 2002-463264 [49]

L2 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2002:284478 HCAPLUS  
 DN 136:305146  
 TI Recombinant mutant alkalophilic Bacillus .alpha.-amylase with improved  
 thermostability, recombinant expression, and detergent use  
 IN Araki, Hiroyuki; Endo, Keiji; Hagiwara, Hiroshi; Igarashi, Kazuaki;  
 Hayashi, Yasuhiro; Ozaki, Katsuya  
 PA Kao Corp., Japan  
 SO Jpn. Kokai Tokkyo Koho, 28 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002112792	A2	20020416	JP 2000-310605	20001011
	US 2002123124	A1	20020905	US 2001-971611	20011009
	US 6743616	B2	20040601		
	EP 1199356	A2	20020424	EP 2001-123378	20011010
	EP 1199356	A3	20020515		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	CN 1348000	A	20020508	CN 2001-141253	20011011
	US 2004265959	A1	20041230	US 2004-798278	20040312
PRAI	JP 2000-310605	A	20001011		
	US 2001-971611	A1	20011009		

L2 ANSWER 5 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2002:660551 HCAPLUS  
 DN 137:212837  
 TI Improvement of thermostability of a calcium-free .alpha.-amylase from an  
 alkaliphilic Bacillus sp. by protein engineering  
 AU Hagihara, Hiroshi; Igarashi, Kazuaki; Hayashi, Yasuhiro; Kitayama, Kaori;  
 Endo, Keiji; Ozawa, Tadahiro; Ozaki, Katsuya; Kawai, Shuji; Ito, Susumu

CS Tochigi Research Laboratories, Kao Corporation, Tochigi, 321-3497, Japan  
SO Journal of Applied Glycoscience (2002), 49(3), 281-289  
CODEN: JAGLFX; ISSN: 1344-7882  
PB Japanese Society of Applied Glycoscience  
DT Journal  
LA English

L2 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 2001:10699 HCAPLUS  
DN 134:82718

TI Mutant .alpha.-amylases with improved thermal stability for use in  
detergents  
IN Endo, Keiji; Igarashi, Kazuaki; Hayashi, Yasuhiro; Hagihara, Hiroshi;  
Ozaki, Katsuya  
PA Kao Corp., Japan  
SO Eur. Pat. Appl., 28 pp.  
CODEN: EPXXDW  
DT Patent  
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	EP 1065277	A1	20010103	EP 2000-111911	20000613
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2001054392	A2	20010227	JP 2000-170517	20000607
	CN 1277258	A	20001220	CN 2000-118140	20000609
PRAI	JP 1999-163569	A	19990610		

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 7 OF 10 MEDLINE on STN DUPLICATE 3  
AN 2001403199 MEDLINE  
DN PubMed ID: 11453991  
TI Deduced amino-acid sequence of a calcium-free alpha-amylase from a strain  
of Bacillus: implications from molecular modeling of high oxidation  
stability and chelator resistance of the enzyme.  
AU Hagihara H; Hayashi Y; Endo K; Igarashi K; Ozawa T; Kawai S; Ozaki K; Ito  
S  
CS Tochigi Research Laboratories of Kao Corporation, Ichikai, Haga, Japan.  
SO European journal of biochemistry / FEBS, (2001 Jul) 268 (14) 3974-82.  
Journal code: 0107600. ISSN: 0014-2956.  
CY Germany: Germany, Federal Republic of  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
OS GENBANK-AB051102  
EM 200108  
ED Entered STN: 20010820  
Last Updated on STN: 20010820  
Entered Medline: 20010816

L2 ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 2001:263361 HCAPLUS  
DN 135:15848  
TI Novel .alpha.-amylase that is highly resistant to chelating reagents and  
chemical oxidants from the alkaliphilic Bacillus isolate KSM-K38  
AU Hagihara, Hiroshi; Igarashi, Kazuaki; Hayashi, Yasuhiro; Endo, Keiji;  
Ikawa-Kitayama, Kaori; Ozaki, Katsuya; Kawai, Shuji; Ito, Susumu  
CS Tochigi Research Laboratories of Kao Corporation, Tochigi, 321-3497, Japan  
SO Applied and Environmental Microbiology (2001), 67(4), 1744-1750  
CODEN: AEMIDF; ISSN: 0099-2240  
PB American Society for Microbiology  
DT Journal  
LA English  
RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 2000:452371 HCAPLUS  
DN 133:70699  
TI Novel oxidizing agents-resistant alkaline amylase from Bacillus and its



use for preparation of detergents  
 IN Hagiwara, Hiroshi; Kitayama, Kaori; Hayashi, Yasuhiro; Igarashi, Kazuaki;  
 Endo, Keiji; Ozaki, Katsuya  
 PA Kao Corp., Japan  
 SO Jpn. Kokai Tokkyo Koho, 13 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000184883	A2	20000704	JP 1998-362488	19981221
	US 6403355	B1	20020611	US 1999-465519	19991216
	EP 1022334	A2	20000726	EP 1999-125399	19991220
	EP 1022334	A3	20020807		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	CN 1257917	A	20000628	CN 1999-126451	19991221
	US 2002197698	A1	20021226	US 2002-136272	20020502
	US 6916645	B2	20050712		
PRAI	JP 1998-362487	A	19981221		
	JP 1998-362488	A	19981221		
	US 1999-465519	A3	19991216		

L2 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2000:452370 HCAPLUS  
 DN 133:86088

TI Novel chelating agents-resistant alkaline amylase from Bacillus and its  
 use for preparation of detergents  
 IN Hagiwara, Hiroshi; Kitayama, Kaori; Hayashi, Yasuhiro; Igarashi, Kazuaki;  
 Endo, Keiji; Ozaki, Katsuya  
 PA Kao Corp., Japan  
 SO Jpn. Kokai Tokkyo Koho, 20 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000184882	A2	20000704	JP 1998-362487	19981221
	US 6403355	B1	20020611	US 1999-465519	19991216
	EP 1022334	A2	20000726	EP 1999-125399	19991220
	EP 1022334	A3	20020807		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	CN 1257917	A	20000628	CN 1999-126451	19991221
	US 2002197698	A1	20021226	US 2002-136272	20020502
	US 6916645	B2	20050712		
PRAI	JP 1998-362487	A	19981221		
	JP 1998-362488	A	19981221		
	US 1999-465519	A3	19991216		

=> d 9, 10 ab

L2 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AB A novel oxidizing agents-resistant alk. liquefaction-type \*\*\*amylase\*\*\*  
 has been prepd. from \*\*\*Bacillus\*\*\* strains KSM-K36 and \*\*\*KSM\*\*\* -  
 \*\*\*K38\*\*\*, resp. The enzyme exhibits a pH optimum >8.0; temp. optimum  
 50-60.degree., pI 4.2, and mol. wt. 55,000.+-.5,000 by SDS-PAGE. The  
 enzyme remains >70% active after incubating at pH 10, 30.degree., for 60  
 min in the presence of 2% H2O2. Use of the amylase for the prepn. of  
 laundry or dish wash detergents is also described.

L2 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2005 ACS on STN  
 AB A novel chelating agents-resistant, alk. liquefaction-type \*\*\*amylase\*\*\*  
 has been prepd. from \*\*\*Bacillus\*\*\* strains KSM-K36 and \*\*\*KSM\*\*\* -  
 \*\*\*K38\*\*\*, resp. The enzyme exhibits a pH optimum >8.0; temp. optimum  
 50-60.degree., pI 4.2, and mol. wt. 55,000.+-.5,000 by SDS-PAGE. The  
 enzyme remains >70% active after incubating at pH10, 45.degree., for 30  
 min in the presence of 1-100 mM EDTA or EGTA. Use of the amylase for the  
 prepn. of laundry or dish wash detergents is also described. The genes

encoding for the \*\*\*amylase\*\*\* are also isolated from \*\*\*Bacillus\*\*\*  
strains KSM-K36 and \*\*\*KSM\*\*\* - \*\*\*K38\*\*\* , resp.

=> dis his

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FILE 'MEDLINE, SCISEARCH, LIFESCI, BIOTECHDS, BIOSIS, EMBASE, HCAPLUS,  
NTIS, ESBIODBASE, BIOTECHNO, WPIDS' ENTERED AT 18:06:59 ON 05 AUG 2005

L1 26 S AMYLASE (5A) BACILLUS (5A) (KSM-K38 OR BP-6946 OR K38AMY)  
L2 10 DUP REM L1 (16 DUPLICATES REMOVED)

=> s l1 and (muta? or variant)

4 FILES SEARCHED...

5 FILES SEARCHED...

8 FILES SEARCHED...

L3 14 L1 AND (MUTA? OR VARIANT)

=> dup rem l3

PROCESSING COMPLETED FOR L3

L4 5 DUP REM L3 (9 DUPLICATES REMOVED)

=> d 1-5

L4 ANSWER 1 OF 5 MEDLINE on STN DUPLICATE 1  
AN 2003316377 MEDLINE  
DN PubMed ID: 12719434  
TI Crystal structure of calcium-free alpha- \*\*\*amylase\*\*\* from  
\*\*\*Bacillus\*\*\* sp. strain \*\*\*KSM\*\*\* - \*\*\*K38\*\*\* (AmyK38) and its  
sodium ion binding sites.  
AU Nonaka Tsuyoshi; Fujihashi Masahiro; Kita Akiko; Hagihara Hiroshi; Ozaki  
Katsuya; Ito Susumu; Miki Kunio  
CS Department of Chemistry, Graduate School of Science, Kyoto University,  
Sakyo-ku, Japan.  
SO Journal of biological chemistry, (2003 Jul 4) 278 (27) 24818-24.  
Electronic Publication: 2003-04-28.  
Journal code: 2985121R. ISSN: 0021-9258.  
CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
OS PDB-1UD2; PDB-1UD3; PDB-1UD4; PDB-1UD5; PDB-1UD6; PDB-1UD8  
EM 200308  
ED Entered STN: 20030709  
Last Updated on STN: 20030819  
Entered Medline: 20030818

L4 ANSWER 2 OF 5 BIOTECHDS COPYRIGHT 2005 THE THOMSON CORP. on STN  
DUPLICATE 2  
AN 2002-16321 BIOTECHDS  
TI KSM-K36 or KSM-K38 \*\*\*variant\*\*\* from Bacillus for cleaning dishes,  
textile desizing, starch liquefaction and ethanol production has  
alpha-amylase activity;  
plasmid-mediated recombinant \*\*\*mutant\*\*\* enzyme gene transfer and  
expression in Bacillus sp.  
AU ANDERSEN C  
PA NOVOZYMES AS  
PI WO 2002031124 18 Apr 2002  
AI WO 2000-DK668 13 Oct 2000  
PRAI US 2001-326752 3 Oct 2001  
DT Patent  
LA English  
OS WPI: 2002-463264 [49]

L4 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2005 ACS on STN  
AN 2002:284478 HCAPLUS  
DN 136:305146  
TI Recombinant \*\*\*mutant\*\*\* alkalophilic Bacillus .alpha.-amylase with  
improved thermostability, recombinant expression, and detergent use  
IN Araki, Hiroyuki; Endo, Keiji; Hagiwara, Hiroshi; Igarashi, Kazuaki;  
Hayashi, Yasuhiro; Ozaki, Katsuya

PA Kao Corp., Japan  
SQ Jpn. Kokai Tokkyo Koho, 28 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002112792	A2	20020416	JP 2000-310605	20001011
	US 2002123124	A1	20020905	US 2001-971611	20011009
	US 6743616	B2	20040601		
	EP 1199356	A2	20020424	EP 2001-123378	20011010
	EP 1199356	A3	20020515		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	CN 1348000	A	20020508	CN 2001-141253	20011011
	US 2004265959	A1	20041230	US 2004-798278	20040312
PRAI	JP 2000-310605	A	20001011		
	US 2001-971611	A1	20011009		

L4 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:660551 HCAPLUS

DN 137:212837

TI Improvement of thermostability of a calcium-free .alpha.-amylase from an alkaliphilic Bacillus sp. by protein engineering

AU Hagihara, Hiroshi; Igarashi, Kazuaki; Hayashi, Yasuhiro; Kitayama, Kaori; Endo, Keiji; Ozawa, Tadahiro; Ozaki, Katsuya; Kawai, Shuji; Ito, Susumu

CS Tochigi Research Laboratories, Kao Corporation, Tochigi, 321-3497, Japan

SO Journal of Applied Glycoscience (2002), 49(3), 281-289

CODEN: JAGLFX; ISSN: 1344-7882

PB Japanese Society of Applied Glycoscience

DT Journal

LA English

L4 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 2001:10699 HCAPLUS

DN 134:82718

TI \*\*\*Mutant\*\*\* .alpha.-amylases with improved thermal stability for use in detergents

IN Endo, Keiji; Igarashi, Kazuaki; Hayashi, Yasuhiro; Hagihara, Hiroshi; Ozaki, Katsuya

PA Kao Corp., Japan

SO Eur. Pat. Appl., 28 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1065277	A1	20010103	EP 2000-111911	20000613
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2001054392	A2	20010227	JP 2000-170517	20000607
	CN 1277258	A	20001220	CN 2000-118140	20000609
PRAI	JP 1999-163569	A	19990610		

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> dis his

(FILE 'HOME' ENTERED AT 18:06:40 ON 05 AUG 2005)

FILE 'MEDLINE, SCISEARCH, LIFESCI, BIOTECHDS, BIOSIS, EMBASE, HCAPLUS, NTIS, ESBIODBASE, BIOTECHNO, WPIDS' ENTERED AT 18:06:59 ON 05 AUG 2005

L1 26 S AMYLASE (5A) BACILLUS (5A) (KSM-K38 OR BP-6946 OR K38AMY)

L2 10 DUP REM L1 (16 DUPLICATES REMOVED)

L3 14 S L1 AND (MUTA? OR VARIANT)

L4 5 DUP REM L3 (9 DUPLICATES REMOVED)

=> log h

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

FULL ESTIMATED COST

ENTRY

SESSION

42.09

42.30

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

-1.46

-1.46

SESSION WILL BE HELD FOR 60 MINUTES

STN INTERNATIONAL SESSION SUSPENDED AT 18:16:00 ON 05 AUG 2005